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ABSTRACT

An analysis of statistics on teacher supply and demand in public schools, 1977, indicates the following trends: (1) The supply of graduates completing prepartion to enter teaching is smaller than the number reported for 1976. This is the fifth consecutive year that the numer completing preparation to enter teaching has decreased from the all-time high in 1972; (2) The number of beginning teachers needed to raise the quality of public school programs and staffing in fall 1977 to minimum level is more than are available from the 1977 graduating class of prospective teachers; (3) The number of prospective teachers from the 1977 graduating class seeking teaching positions exceeds the number of teaching positions actually open to them; (4) The percentage of employment in teaching positions in the fall following graduation in 1977 has sharply declined since 1962; and (5) Teaching assignments in which the supply is least adequate are mathematics, natural and physical sciences, distributive education, vocational-techical subjects, and agriculture. Assignments in which the supply is most adequate are social sciences, physical and health education, art, music, and foreign languages. A report on population trends and the implications for educational planning accompanies this study. (JD)

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Teacher Supply and Demand in Public Schools 1977

With Population Trends and Their Implications for Schools 1978

National Education Association Research

A National Education Association Publication

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Teacher Supply and Demand in Public Schools, 1977

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TEACHER SUPPLY AND DEMAND IN PUBLIC SCHOOLS, 1977

William S. Graybeal, *Project Director*

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TEACHER SUPPLY AND DEMAND IN PUBLIC SCHOOLS, 1977

- *The supply of graduates completing preparation to enter teaching in 1977 (213,054 graduates) is smaller by 6.2 percent than the number reported for 1976. This is the fifth consecutive year that the number completing preparation to enter teaching has decreased from the all-time high of 317,254 in 1972.*

- *The 499,750 beginning teachers needed to raise the quality of public school programs and staffing in fall 1977 to minimum levels is 335,650 more beginning teachers than are available from the 1977 graduating class of prospective teachers.*

- *The number of prospective teachers from the 1977 graduating class seeking teaching positions (164,100 persons) exceeds by 79,200 the number of teaching positions actually open to them (84,900 positions).*

- *Employment in teaching positions in the fall following graduation is reported for 47.4 percent of the 1976 graduates prepared to enter teaching. Fourteen years ago employment in teaching positions was reported for 74.4 percent of 1962 graduates completing preparation to enter teaching.*

- *Teaching assignments in which the supply is least adequate are mathematics, natural and physical sciences, distributive education, vocational-technical subjects, and agriculture. Assignments in which the supply is most adequate are social sciences, physical and health education, art, music, and foreign languages.*

Definitions of Some Terms Used in This Study

Quality Criterion Estimate: The number of teachers needed to attain a minimum level of quality in public schools this year (see pp. 7 through 10).

Adjusted Trend Criterion Estimate: The number of teaching positions that will be filled (see pp. 7 and 10).

Beginning Teacher: A person entering active employment as a full-time teacher for the first time.

Re-Entering Teacher: A person re-entering active status who was not employed as a full-time teacher during the preceding school year.

New Teacher: A person entering or re-entering active status who was not employed as a full-time teacher during the preceding school year. (The demand for new teachers is the sum of the demand for beginning and the demand for re-entering teachers.)

Statistical information about the supply and demand for public school teachers in 1977 has been collected by NEA Research from institutions that prepare persons for entry into teaching and from state departments of education. The continuing assistance of these institutions, state education agencies, and state education associations has made possible this thirtieth annual study.

Supply of Beginning Teachers

During the 1976-77 session every institution that prepares persons for meeting the minimum certification requirements for initial entry into public school teaching reported the number of graduates completing preparation to enter teaching. The institutions supplied both the actual number graduating in 1976 and the number expected to graduate in 1977. Included are all graduates with at least a bachelor's degree completing minimum requirements for teacher certification for the first time.

The total number of graduates completing preparation to enter assignments in elementary, secondary, or special education classrooms is 213,054 in 1977, a decrease of 6.2 percent from the 227,049 graduates similarly reported for 1976. It is lower by 32.8 percent than the all-time high of 317,254 graduates completing preparation to enter teaching in 1972.

The total number completing preparation to enter teaching in 1977 (excluding persons prepared to enter library science positions) represents 21.8 percent of the estimated total number of graduates receiving the bachelor's and first professional degree. Between 1960 and 1972 the numbers of graduates completing preparation to enter teaching (including library science) represented between 33.5 percent and 36.3 percent of the total number of graduates receiving the bachelor's and first professional degree.

The total number completing preparation for entry into elementary school assignments in 1977 (78,574 graduates) is 8.3 percent lower than the number completing similar preparation in 1976 (85,718). This is the fifth year that the number completing preparation for entering elementary school assignments has been lower than the all-time high of 128,613 graduates reported in 1972.

The total number completing preparation to enter teaching in secondary school assignments in 1977 is 106,716 graduates (down 6.2 percent from the 113,726 reported for 1976). This is the sixth year that the numbers completing preparation for entry at the secondary level have been lower than the all-time high of 174,759 reported in 1971.

The number completing preparation to enter teaching in special education assignments at either the elementary or secondary school level is 27,764 graduates in 1977, an increase of 0.6 percent over the 27,605 graduates completing similar preparation in 1976. The number in the 1977 class completing preparation in special education is three times the number completing this type of preparation seven years ago (9,226 graduates were reported in 1970) and is more than six times the number reported eleven years ago (4,380 graduates were reported in 1966).

About 3 teacher education graduates in 10 are male (28.9 percent) in 1977; this is similar to the percents reported during the period between 1963-64 and 1973-74 but is considerably below the 36.2 to 44.2 percent reported between 1951-52 and 1961-62. The proportion of *all* public school teachers who are men was 33.5 percent in both 1976-77 and 1974-75. The 1974-75 level ended the trend of increasing by almost 0.3 percentage points each year during the preceding ten years. The percent of all teachers who are men was 24.6 percent in 1953-54, 31.1 percent in 1963-64, and 33.8 percent in 1973-74.

The states differ in the total number of graduates completing preparation to enter regular teaching assignments and in the percent change over the past year in the number completing preparation to teach. The numbers completing preparation in 1977 range from 63 in Alaska to 17,396 in Texas. Ten states report fewer than 1,000 graduates completing preparation to enter teaching and six states report 10,000 or more. Eight states and the District of Columbia report an increase of at least 4 percent in the number of graduates prepared to teach in 1977 over the number in 1976 (Alaska, Hawaii, New Hampshire, North Carolina, North Dakota, South Dakota, Utah, Wyoming) and two states report a decrease of at least 15 percent over this period (Alabama and California).

Proportion of Graduates Applying for Jobs— The estimated number of graduates completing preparation to teach in each major assignment classification in public schools is shown in Table 1, column 2. These estimates are based upon an assumption that the distribution of graduates among assignments is the same in 1977 as it was in 1974. The number reported for a given assignment classification may be a minimum estimate because many graduates have completed preparation to enter more than one assignment. The institutions report each graduate only once and arbitrarily assign a classification to each graduate who has multiple assignment options.

Typically, many persons completing preparation to enter public school teaching do not obtain positions during the subsequent year. The unmeasured and interrelated effects of many factors make it impossible to estimate the precise number who will actively seek employment in teaching immediately after graduation. Some of these factors include the economic status of teaching jobs compared to other positions open to qualified

college graduates, attractiveness of working conditions in teaching positions compared to other jobs open to qualified college graduates, and extent that publicity about the job shortage for teachers may reduce the numbers of graduates willing to invest time and resources in applying for a scarce position-vacancy.

The percent of qualified graduates obtaining teaching positions during a period of general shortages of qualified teachers provides a useful base for estimating the percent of present graduates expected to seek teaching positions if working conditions and salaries are reasonably attractive. This is likely to be a conservative estimate because even during the period of general shortages, the supply of applicants exceeded the number of openings in some assignment areas (notably in social studies, which affects a significant number of graduates prepared to teach), and follow-up information was not available for 10 percent of the graduates (some of whom may have found teaching positions but did not notify their college placement offices). Also, depending upon the current effects of the various factors noted above, projections from this base may be higher or lower than the actual percents of qualified graduates actively seeking teaching positions.

TABLE 1.–SUPPLY OF AND DEMAND FOR BEGINNING TEACHERS IN PUBLIC SCHOOLS BY TYPE OF ASSIGNMENT, FALL 1977

Assignment area	Estimated number completing preparation to teach	Estimated supply	Estimated demand	Supply minus demand	Supply as percent of demand
1	2	3	4	5	6
ELEMENTARY TOTALS	93,622	78,000	44,600	33,400	174.9
Regular instruction	74,724	63,100	31,750	31,350	198.7
Art	1,179	1,000	1,300	−300	76.9
Foreign language	157	100	200	−100	50.0
Music	1,021	900	2,150	−1,250	41.9
Physical and health education	1,493	1,300	2,200	−900	59.1
Special education	15,048	11,600	7,000	4,600	165.7
SECONDARY TOTALS	119,432	86,100	40,300	45,800	213.6
Agriculture	1,174	850	950	−100	89.5
Art	6,083	4,350	1,350	3,000	322.2
Business education	5,976	4,300	2,050	2,250	209.8
Distributive education	640	450	300	150	150.0
English language arts (total)	17,501	12,500	5,900	6,600	211.9
Foreign languages (total)	5,763	4,100	1,650	2,450	248.5
Home economics	5,229	3,750	2,150	1,600	174.4
Industrial arts	3,948	2,800	1,750	1,050	160.0
Mathematics	7,577	5,400	3,650	1,750	147.9
Music	6,190	4,450	1,350	3,100	329.6
Physical and health education–boys	9,818	7,000	1,750	5,250	400.0
Physical and health education–girls	7,150	5,100	1,600	3,500	318.8
Natural and physical sciences (total)	7,363	5,250	3,850	1,400	136.4
Social sciences (total)	20,383	14,600	3,550	11,050	411.3
Trade, industrial, vocational, technical	747	550	2,000	−1,450	27.5
Other secondary subjects	1,174	850	1,000	−150	85.0
Special education	12,716	9,800	5,450	4,350	179.8
TOTAL: Elementary and Secondary	213,054	164,100	84,900	79,200	193.3

A recent National Center for Education Statistics study of graduates receiving the bachelor's or master's degree indicates that only 77.0 percent of those completing minimum requirements for teacher certification in 1974-75 report that they applied for a teaching position. That study also reveals that the average annual salary of bachelor's degree graduates employed as teachers ($8,300) was lower than all but one of the 17 occupational groupings into which data were summarized and was far below the overall average salary of $9,400. This suggests that for many graduates the decision to apply for a teaching position may be a second choice, which may follow an unsuccessful bid for other appropriate employment. An additional "supply" of qualified applicants may be expected to actively seek teaching positions if teachers' salaries become more competitive with those in other occupations entered by new college graduates.

The number of graduates estimated to be seeking employment in teaching if attractive positions are available in fall 1977 is provided in column 3 of Table 1. The application rate for teaching jobs estimated for graduates prepared to teach at the elementary school level is 84.5 percent. In 1958 when entry rates were near their peak and follow-up information was reported for a very high proportion of graduates prepared to enter teaching, 83.3 percent entered teaching positions immediately after graduation and an additional 1.7 percent were seeking a teaching job. The job application rate similarly estimated for graduates prepared to teach in secondary schools is 71.5 percent. In 1962 immediate employment in teaching positions was reported for 69.2 percent of graduates prepared to teach; and additional 1.5 percent were seeking a teaching job.

The job application rate estimated for graduates prepared to teach in special education assignments is the overall average (77.0 percent) of the rates estimated for elementary and secondary levels. The job application rates estimated for 1977 probably are conservative as an outcome of continuing reaction to the annual teacher surplus, such as the increased screening of students preparing to teach, the increased awareness of students about the tight job market for teachers and also the tight market in all occupations normally entered by college graduates, and greater commitment to teaching as a career among present graduates.

The number of jobs open to beginning teachers has been about half of the number of graduates estimated to have been seeking teaching jobs during each of the past six years. The number of these earlier graduates who were unable to locate an attractive teaching position immediately following graduation and who are now seeking jobs as beginning teachers cannot be estimated accurately, but some evidence suggests that about one-fifth of beginning teachers come from this status. Many of these have now completed graduate preparation and/or have had experience as substitute teachers. The presence of at least some qualified applicants from this source makes it very likely that the actual number of qualified prospective beginning teachers is greater than the number estimated through use of the entry rates listed above for the 1977 graduating class.

Supply of Qualified Former Teachers

Some teachers who have left their positions normally may be expected to return to active employment in teaching. In addition to those having leaves of absence, a significant number of former teachers are interested in returning to the classroom following an interruption related to educational, family, health, and/or personal interests.

The number of elementary and secondary school teachers in the labor reserve who had completed at least four years of college was estimated by the U.S. Bureau of the Census to comprise 304,460 persons in 1960 and 523,140 persons in 1970. Assuming that the same percents of the teaching staff during the preceding ten-year period have entered the labor reserve, this supply probably has grown to 650,000 persons in fall 1977. (In addition to the number of teachers estimated to be in the labor reserve in 1970 were about 29,200 *unemployed* experienced teachers between the ages of 20 and 64.)

The number of persons in this pool of former teachers who may be expected to seek active employment is also difficult to estimate. The number of former teachers who re-entered teaching in 1960-61 represented 18.3 percent of the pool of elementary-secondary teachers in the labor reserve in 1960. Applying this percentage to the 650,000 persons estimated in this pool in 1977, it can be assumed that at least 119,000 experienced former teachers having a minimum of a bachelor's degree were seeking employment in public schools in fall 1977, probably two-thirds of these at the elementary school level (79,300).

Demand for New Teachers

The demand for new teachers may be viewed from two perspectives: the number of teachers *needed* and the number of teaching *positions that will be filled.* Both types of estimates are valuable in planning for continued improvements in the quality of public schools. These estimates show the manpower implications of long-term goals for school improvement and the extent that qualified manpower is available to support immediate steps to improve the quality of education.

The number of teachers *needed* (Quality Criterion Estimate of demand) shows the demand for enough teachers to attain a minimum level of quality without consideration of obstacles to attaining this standard immediately. The number of teaching positions *that will be filled* (Adjusted Trend Criterion estimate of demand) shows the demand for enough teachers to continue the recent annual trends toward improvement in the quality of school programs and services.

Demand for Minimum Quality

Table 2 (see p. 8) summarizes the estimated numbers of new teachers needed to staff the programs and services required if the quality of public schools were immediately raised to minimum levels. This estimate—based upon several characteristics of quality in public education for which some statistical estimates of current status are available—does not necessarily reflect but is consistent with official NEA policy or objectives. The total demand derived from the accumulation of the component estimates should be used in very general terms because (a) the statistical data underlying the estimates are not precise, (b) the estimates are intended to be conservative, and (c) teachers displaced by achievement of one category of demand would qualify for placement in positions opened by a different category of demand.

The estimated number of teachers needed to attain a minimum level of quality in public education would be much larger if it included the staff-size implications of other desirable changes in school programs and services, such as the following.

- Providing experiences designed to develop literacy and minimum competence among those who have reached the upper grade levels or who have left the schools without attaining basic learnings.
- Introducing programs to secure the continued enrollment of the dropout-prone students currently enrolled in the lower grades and the estimated 850,000 persons age 14-17 or the 1.3 million persons age 18-19 who have *not* graduated from high school and are not currently enrolled in school.
- Providing more specialists to give individualized instruction to children with unique problems in mastering basic learnings and skills.
- Giving more attention to the educational needs of children who are unable to respond fully to the regular school program.
- Improving the extent and type of in-service professional growth programs for teachers (sabbatical and educational leaves, released time to observe and confer with other teachers who have comparable assignments, released time to participate in short courses directed to specific needs, etc.).
- Providing more opportunity for releasing some teachers part time to explore improved instructional methods and materials.

The components of the Quality Criterion Estimate of demand may be expanded to include these and other considerations relating to high quality in public school programs and services after statistical estimates of current and desirable status are available.

The estimates of the demand for enough teachers to attain minimum levels of quality in public school programs and services are described below.

Enrollment and Staff Ratio Changes—The U.S. Office of Education estimates that in fall 1977 the number of full-time and part-time teachers in public schools decreased by 15,000 teachers. Compilation of information from the states by NEA Research in fall 1977 provides a national estimate that the number of elementary public school teachers decreased by 7,451 and the number of secondary school teachers decreased by 4,352 from the number employed in 1976-77 (making a total decrease of 11,803 teachers in fall 1977). These estimates indicate the 1977-78 session is providing employment for 1,169,177 elementary and 1,007,606 secondary teachers, a total of 2,176,783 teachers in public schools.

A small reduction in the NEA Research estimate of change in the number of teachers is used in the remainder of this Research Memo to indicate the number of new teachers to be employed for positions related to enrollment changes and normal staff ratio improvements in public schools. Because

TABLE 2.–DEMAND FOR NEW TEACHERS BASED ON THE QUALITY CRITERION, 1977

Source of demand	Estimated demand for new teachers		
	Elementary	Secondary	Total
1	2	3	4
Enrollment change and trends toward improved staffing	–3,450	–6,350	–9,800
Teacher turnover	73,850	63,900	137,750
Temporary replacement of teachers having substandard qualifications	7,500	6,500	14,000
Reduction in number of overcrowded classes	167,050	157,050	324,100
Enlarged numbers enrolled in special education	17,400	13,400	30,800
Enlarged numbers enrolled in kindergarten and nursery school	11,950	...	11,950
Reduction in number of misassigned teachers	23,450	35,500	58,950
Enlargement of school offerings	1,000	50,000	51,000
TOTAL	298,750	320,000	618,750

some positions included will be used to improve the quality of public school programs and services, this demand component may overlap a small part of the demand for new teachers needed to improve specific aspects of educational quality estimated in other components of the Quality Criterion Estimate of teacher demand.

Teacher Turnover–The decreasing rates of voluntary separation from active employment probably stem from increased teacher awareness of the difficulties of securing employment following an interruption in service. On the other hand, many who normally continue to teach following a move to a new location may not be able to secure employment as readily as in the past. On the basis of the studies of teacher turnover made by USOE and the sampling data collected by NEA Research, probably 137,750 teaching positions were opened to new teachers in fall 1977 by the separation (for at least one year) of 6.3 percent of the teachers employed in the 1976-77 session.

Temporary Replacement of Teachers Having Substandard Qualifications–In the absence of valid statistics on the number currently employed who do not have minimum teaching qualifications, the minimum educational requirement for qualified teachers is assumed to be the completion of the bachelor's degree. Special circumstances supporting the continued employment of many of those who lack a bachelor's degree reduce the validity of this estimate of the number who should be replaced. Also, the replacement of many of the teachers who lack only one or two years of college may only be on a short-term basis while they return to school to complete their degree.

Data from a sample survey of public school teachers show that 0.8 percent of elementary and secondary teachers in 1976-77 lacked the bachelor's degree. It is assumed that 20 percent of those lacking the degree will have either resigned or completed the degree requirements during the 1976-77 session, making an estimated total of 14,000 teachers lacking the bachelor's degree who should be

replaced in fall 1977 (for at least a short term) by qualified teachers.

Reduction of Overcrowded Classes—A national NEA Research survey of a sample of public school teachers in 1976-77 provides an estimate of the distribution of teachers by their class size and total pupil load. These percentage distributions were applied to the total number of teachers employed in 1976-77 to estimate the number who may have been assigned extremely large classes.

On the basis of these distributions about 324,100 additional teachers are estimated as being needed in fall 1977 to reduce maximum class size to 24 pupils at the elementary school level and maximum teacher load to 124 pupils at the secondary school level. The number of assignments in which it may be acceptable to have larger numbers of students than indicated by this standard probably is more than offset by the number of assignments in which the class size should be far smaller than this maximum.

The most productive approach to improving the quality of public education probably would be progress toward achieving the staff requirements of this demand component. Problems most frequently reported by teachers are those that are directly related to oversize classes. Also, for many instructional objectives and assignments the size of the class has been shown to make a significant difference in the quality and effectiveness of instruction.

Larger Numbers Enrolled in Special Education—At least 30,800 additional teachers are needed to provide special education for all school-age children who require it. This estimate—projected from data from 45 states and the District of Columbia compiled by the U.S. Office of Education's Bureau of Education for the Handicapped—does not include the additional teachers needed to extend special education services to preschool children.

Special education includes the services required for "all children with physical, mental, or emotional impairments that are severe enough so that these children need special educational services to achieve an educational level consistent with their basic abilities." The Bureau of Education for the Handicapped estimates that 1.2 million school-age and 0.5 million preschool-age children require but are not receiving special education services in 1977-78.

Larger Numbers Enrolled in Kindergarten and Nursery School—Minimally, 11,950 new teachers are needed to provide kindergarten for the same proportion of five- and six-year-old children as the proportion of seven-year-olds now enrolled in school. This estimate does not include the number of new teachers needed to replace present kindergarten teachers having substandard qualifications, to replace present kindergarten teachers who interrupt or terminate their careers, or to improve the pupil-teacher ratio at this level of instruction. On the basis of U.S. Bureau of Census data in fall 1976 more than 300,000 five- and six-year-old children are estimated to be not enrolled in school.

Reduction in the Number of Misassigned Teachers—At least 58,950 new teachers are needed to reduce the impact of the misassignment of teachers in elementary and secondary schools. Data from a 1975-76 study show that 4.3 percent of elementary and 7.8 percent of secondary teachers last year were teaching full time in an assignment that was different from their major field of preparation. It is estimated that in 1976-77 these rates have fallen to 4.0 percent and 7.0 percent, respectively, and that new teachers are needed to allow the reassignment of 50 percent of misassigned teachers.

The improved supply of teachers should be steadily decreasing this problem. However, the above is a conservative estimate because it does not include the number of new teachers needed to reassign for at least part of the day the more than 100,000 teachers who are teaching at least half time but not full time in assignments outside their major field of preparation.

Enlargement of School Offerings—At least 51,000 new teachers are needed to enlarge offerings in elementary and secondary schools. These offerings have been severely curtailed by some school systems as a result of financial cutbacks, and sometimes instruction has not been offered in several subjects widely accepted as basic to a comprehensive program of public education. At least 1,000 teachers are needed to enlarge offerings at the elementary school level to contribute to improvement of the quality of education in the 4,000 school system incidences of reporting the absence of elementary school instruction in art, music, health, and/or physical education in 1973-74.

At least 50,000 new teachers are needed to enlarge the scope of secondary school offerings. In

1975-76 more than 11,000 school systems reported the absence of secondary school offerings in industrial arts and/or a work-study program. Providing two teachers for each of these courses alone would require more than 44,000 new teachers. At least 4,800 school systems provide limited or no offerings in home economics and/or instrumental music. Data are not available on the extent new teachers are needed to reinstate additional school offerings recently cutback as a result of financial constraints.

Actual Demand

The number of positions *that will be filled* by new teachers in fall 1977 is the sum of the positions created by enrollment-staff ratio trends and the positions opened by the separation of teachers employed last year. These are the first two components of the Quality Criterion Estimate summarized above. Employment in teaching is estimated to be virtually assured for 127,950 new teachers in fall 1977 (70,400 in elementary schools, 57,550 in secondary schools). If improved school staffing were implemented, these numbers would, of course, be increased.

Demand for Beginning and for Re-Entering Teachers

The preceding estimates have been directed to the demand for *new* teachers. A *new* teacher is a person entering or re-entering active status who was not employed as a full-time teacher during the preceding school year. A *beginning* teacher is a person entering active employment as a full-time teacher for the first time. Therefore, the demand for *new* teachers is the sum of the demand for *beginning* and the demand for *re-entering* teachers.

The "mix" of beginning and experienced reentering teachers employed by local school systems may be influenced by factors such as the adequacy of the supply of beginning teachers, extent of financial constraints that may make the school system choose the least expensive of the qualified applicants, and characteristics of teachers who are continuing their employment. As a result the demand for beginning versus re-entering teachers cannot be estimated with great accuracy.

On the basis of estimates from studies of teacher turnover and characteristics of employed teachers, the number of positions that will be filled by unemployed experienced teachers in fall 1977 will be equal to 2.2 percent of the total number of elementary teachers and 1.7 percent of the total number of secondary teachers in 1976-77.

Applying these projected rates of re-entry to the total number of teachers in 1976-77, it is estimated that 25,800 former elementary and 17,250 former secondary teachers will re-enter active employment as teachers in fall 1977 following an interruption of at least one year.

Teacher Supply Compared to Demand

The preceding estimates are summarized in Table 3, which shows that the supply of new teachers exceeds the number of positions open to them by 155,150 but is smaller by 335,650 than the number of positions needed to be filled to raise the quality of school programs and services to minimum levels in fall 1977. The number of 1977 graduates estimated to be seeking positions is almost twice (193.3 percent) the number of positions estimated to be open and is about one-third (32.8 percent) of the number of positions that would be open if the quality of school programs and services were raised to minimum levels in fall 1977.

The conclusion that supply is larger than demand for beginning teachers is supported by the employment status of 1976 graduates completing preparation to enter teaching. Among those for whom follow-up information was reported, 47.4 percent secured teaching positions (51.3 percent of those prepared for elementary, 42.9 percent of those prepared for secondary, and 55.6 percent of those prepared for special education assignments). Institutions reported the employment status, as of November 1, 1976, of all graduates who had completed preparation to enter teaching in 1976. Reports were received from every state except California, Michigan, and Texas. Information was reported for less than half of the graduates completing preparation in Alaska, the District of Columbia, Florida, Maine, Massachusetts, and Rhode Island. Overall, follow-up information was reported for 67.3 percent of the 1976 graduates prepared to enter teaching.

Supply and Demand by Region—The percents of teacher education graduates who entered teaching in the fall following graduation are one indication of the differences in supply-demand conditions among the states. However, because these

TABLE 3.–SUPPLY AND DEMAND FOR PUBLIC SCHOOL TEACHERS, FALL 1977

Level and category of personnel	Supply	Demand to achieve minimum quality (Quality Criterion Estimate)			Actual demand (Adjusted Trend Criterion Estimate)		
		Demand	Supply minus demand	Supply as percent of demand	Demand	Supply minus demand	Supply as percent of demand
1	2	3	4	5	6	7	8
Elementary schools							
Beginning teachers	78,000	219,450	−141,450	35.5	44,600	33,400	174.9
Re-entering teachers	79,300	79,300	0	100.0	25,800	53,500	307.4
Total new teachers	157,300	298,750	−141,450	52.7	70,400	86,900	223.4
Secondary schools							
Beginning teachers	86,100	280,300	−194,200	30.7	40,300	45,800	213.6
Re-entering teachers	39,700	39,700	0	100.0	17,250	22,450	230.1
Total new teachers	125,800	320,000	−194,200	39.3	57,550	68,250	218.6
Total Elementary and Secondary							
Beginning teachers	164,100	499,750	−335,650	32.8	84,900	79,200	193.3
Re-entering teachers	119,000	119,000	0	100.0	43,050	75,950	276.4
TOTAL	283,100	618,750	−335,650	45.8	127,950	155,150	221.3

percentages may be influenced by factors other than supply and demand, the differences should be treated in very general terms.

The percents of teacher education graduates entering teaching jobs in 1976 were *highest* in the Plains states (61.1 percent): Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. The following states report that at least 58 percent of their teacher education graduates entered employment as teachers in fall 1976: Alabama, Arkansas, Florida, Kansas, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oregon, South Dakota, and Wyoming.

The percents of teacher education graduates who have entered teaching jobs in 1976 were *lowest* in the Mideast (32.4 percent) and in New England (40.8 percent). The Mideast states comprise Delaware, the District of Columbia, Maryland, New Jersey, New York, and Pennsylvania. The New England states comprise Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. Employment in teaching in 1976 was reported for less than 40 percent of the teacher education graduates in Alaska, Arizona, Connecticut, Delaware, Illinois, Maryland, Mississippi, New Jersey, New York, Pennsylvania, and Rhode Island.

Supply and Demand by Assignment–Estimates of the supply and the demand for beginning teachers by subject assignment are listed in Table 1, columns 3 and 4. The supply for a given assignment is estimated to be 84.5 percent of the graduates prepared for assignments at the elementary level, 71.5 percent of the graduates prepared for assignments at the secondary level, and 77.0 percent of the graduates prepared for assignments in special education. The demand for each assignment is estimated by apportioning the total demand for the level in which the assignment is classified on the basis of the percentage distribution of the number of beginning teachers among these assignments reported by 20 states last year.

The estimated supply of prospective teachers from the 1977 class to fill jobs open to beginning teachers in fall 1977 exceeds the demand in all assignment areas except agriculture and trade-industrial-vocational-technical. Many of the graduates who have completed preparation to teach art, music, foreign language, or health and physical education at the secondary school level probably are qualified to teach the subject at either the secondary or elementary level. Also, information about the demand for new teachers in elementary school assignments may not be as accurate as data in other assignment areas because of differences among the states in types of school organization and record keeping for elementary school teachers. Therefore, the supply-demand condition of these elementary school assignments may be evaluated most accurately by reviewing the combined elementary and secondary school data.

The estimate of an undersupply of graduates prepared to enter positions in trade-industrial-vocational-technical positions in secondary schools is of questionable accuracy because (a) teachers entering these assignments may not normally come from the current graduating class (work experience

in the specific occupation or technology may also be required), (b) the wide variety of occupations in this category makes it difficult to identify which programs of teacher preparation should be enlarged, and (c) a relatively small number of teachers are involved in this assignment area (the open positions may be filled by a small proportion of those graduates prepared for more than one assignment who have been listed as completing preparation for other assignments).

Among the assignment areas in which reasonably accurate estimates can be made, the supply is least adequate in trade-industrial, agriculture, mathematics, natural and physical sciences, and distributive education.

Subjects or assignments in which the supply is estimated to most widely exceed actual demand include social studies, men's physical and health education, art, music, foreign languages, and women's physical and health education.

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National Education Association
1201 Sixteenth Street, N.W. • Washington, D.C. 20036

Population Trends and Their Implications for Association Planning, 1978

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Peter D. Veillette

POPULATION TRENDS AND THEIR IMPLICATIONS FOR ASSOCIATION PLANNING, 1978

William S. Graybeal, *Project Director*

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POPULATION TRENDS AND THEIR IMPLICATIONS FOR ASSOCIATION PLANNING, 1978

- *The number of annual births has been near 3,150,000 each year between 1973 and 1977–lower than in any year since 1946.*
- *Recently revised projections call for a later and smaller annual growth in the number of births than previously expected.*
- *The number of annual births is projected to increase about 150,000 each year between fiscal 1979 and 1981, about 100,000 in 1982, about 50,000 in 1983 and in 1984, about 30,000 in 1985 and in 1986, and less than 15,000 in 1987 before beginning to decline again each year beginning in 1989.*
- *The states differ widely in the change in the number of births in 1977 from the number born in 1971. The number is down by at least 12.0 percent in Connecticut, the District of Columbia, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, and Vermont; while the number is up by at least 12.0 percent in Alaska, Idaho, Oregon, Utah, and Wyoming.*
- *The number of public school teachers is projected to continue to decrease each year until 1983.*
- *The number of persons age 18-21 is projected to reach a peak of 17,156,000 in 1979, then an era of annual decreases will begin that will end in 1994 when this age group will contain 12,972,000 persons.*

WIDE DIFFERENCES IN the local status and rates of change in birth rates and population migration contribute to severe enrollment declines in some school systems while others continue to grow. Because the national estimates show there will be an overall reduction in the total number of jobs for teachers and higher education faculty, informed planning is needed now to make the most of the resultant problems facing education and the teaching profession.

Population Trends

The 3,111,000 births in fiscal 1974 were the lowest in any year since 1946. The numbers born each year between 1973 and 1977 have been less than 3.2 million. Provisional estimates suggest there will be only a small increase in fiscal 1978. However, it is projected that the number of children born each year will increase until 1988, despite a continuation of relatively low birth rates. Except for the moderate increase in the numbers born between 1969 and 1971, there was an annual decrease in the number of children born each year between 1961 and 1974.

The outcome, reported in 1977 projections by the U.S. Bureau of the Census and shown in Table 1, is that for the nation as a whole the total number of age 5-17 children will decrease every year between 1971 and at least 1984. In 1985 the projected number of age 5-17 children and youth will begin to increase moderately every year until the year 2000.

The age 18-21 population will continue to grow until 1979, but 1980 will begin an era of annual decreases that will last until 1995.

The rates of decrease in the numbers in these population groupings will not be constant. The most severe drop in age 5-17 population will occur between 1975 and 1983, when the annual decreases will range between 1.0 and 2.3 percent. Only in 1978, 1979, 1980, and 1981 will the annual decreases equal or exceed 1.9 percent of the age 5-17 population of the previous year. The age 5-13 group dropped or will drop between 2.0 and 2.6 percent in 1973, 1974, and 1977 through 1979. The age 14-17 group will decrease each year from 1976 through 1990, except in 1985 when there will be a very small increase of 130,000 over 1984. The years in which the percentage drop in the age 14-17 population will exceed 2.0 percent are from 1979 through 1983 and from 1987 through 1989. The annual decrease will be more than 3 percent in 1980 through 1982, 1988, and 1989. The largest percentage decrease will occur in 1982, when a drop of 550,000 youth will be a reduction of 3.7 percent in the number in 1981.

The age 18-21 population will decline by 2.0 percent or more each year between 1983 and 1987 and between 1991 and 1993. This age group will reach its lowest number since 1969 (when it was 14,426,000) when it declines to 12,972,000 in 1994. The drop of 4.2 million persons in this age group between its peak size of 17,156,000 in 1979 to the 1994 low is about one-fourth (24.4 percent) of the total number in this age group in 1979.

The projections of the age 5-17 population are highly accurate for at least the next eight years and the projections of the age 18-21 population are highly accurate through 1994 because both projections were based upon the numbers of children born before 1977.

The population projections listed in Table 1 indicate the basic numbers that will influence trends in enrollments and the number of staff. Projections of actual enrollments and/or numbers of teachers require the application of assumptions about the percentage of the population that will be enrolled and the ratio of students to teachers. The information in Table 1 provides the base line from which these related estimates may be derived.

With the unknown effects of high levels of general unemployment and underemployment, continuing need to improve the quality of preschool education-related experiences for many young children, increased emphasis on appropriate instruction for handicapped children and youth, increased need to provide instruction for the large numbers of functionally illiterate youth and adults, and the long-term trend toward increasing the number of professional staff per 1,000 students, it is difficult to project accurately the number of teachers that will be employed. Barring a major change in the trend toward improving the quality of education by lowering the student-teacher ratio, it is likely that the reductions in numbers of teachers will not be as severe as the reductions in the numbers of school-age persons.

Recent projections made by the National Center for Education Statistics assume that the trend toward smaller numbers of pupils per teacher will continue and indicate that the annual decreases in the number of K-12 teachers will probably not exceed 1.3 percent of the number of teachers employed in the previous year (Table 2). However, NCES's projections of the numbers of higher education faculty show decreases of at least 1.1 percent beginning in 1985.

Variations Among States

These national population trends probably will not be observed exactly in any one state, local school system, or institution of higher education. States and localities differ widely in birth rates, population mobility, rates of change in these factors, and related demographic characteristics.

Combination of the rates of recent change in the number of children born and the number of persons of age 5-17 (shown in Table 3) provides a general estimate of the relative severity of potential enrollment declines among the states. The states *least likely* to face major problems of enrollment declines include Alaska, Arizona, Colorado, Florida, Hawaii, Idaho, Nevada, Texas, Utah, and Wyoming.

States likely to have the *most severe problems* include Connecticut, Delaware, the District of Columbia, Illinois, Indiana, Maryland, Massachusetts, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, and Vermont. These states have greater reductions in the number of births and number of age 5-17 children than most other states.

The states with sharp declines in the number of annual births but relatively small decreases in the age 5-17 population—which may give them greater delay in the loss of enrollment potential than other states—are Georgia, Maine, North Carolina, South Carolina, Tennessee, and Virginia.

The American Council on Education has reviewed the population shifts and migration trends of 18-year-olds enrolled in higher education and projects that the states most likely to lose freshman

students between 1975 and 1985 are Arkansas, Connecticut, Illinois, Minnesota, New Jersey, New York, North Dakota, Ohio, and Pennsylvania. The states most likely to have increased numbers of freshman students during this period are Arizona, Colorado, Delaware, Florida, Idaho, and Utah.

Variations Within States

Although three in four persons (73.4 percent) live in a metropolitan area, since 1970 the rate of population growth in these areas has decreased from being greater than to being less than that in nonmetropolitan areas. The average annual percent change in total population in metropolitan areas as a whole between 1970 and 1977 was 0.6 percent compared with 1.5 percent between 1960 and 1970. Between 1970 and 1977 the average annual percent increase in population in metropolitan areas outside of central cities was 1.6 percent, down from 2.4 percent between 1960 and 1970. On the other hand, in the central cities of metropolitan areas between 1970 and 1977 the average annual change in total population was minus 0.6 percent compared with plus 0.6 percent during the 1960's. In the nonmetropolitan areas between 1970 and 1977 the average annual percent increase in population was 1.3 percent, up from the 0.7 percent observed between 1960 and 1970.

The total population growth between 1970 and 1977 was greater in the metropolitan areas outside of central cities (8.7 million) than in the nonmetropolitan areas (5.8 million), while the central cities of metropolitan areas lost 2.5 million persons.

The rate of population growth in the metropolitan areas is greater in those having less than 500,000 persons than in the larger centers, and the rate of growth is greater among those located in the South and West than in the Northeast and North Central regions.

In the nonmetropolitan areas, the counties with the highest numerical growth include those located adjacent to metropolitan areas, those having 10 percent or more net immigration of persons age 60 years or older, those having 30 percent or more of the population employed in manufacturing, and those in which a senior state college is located. Counties that are entirely rural had a population increase of 6.1 percent between 1970 and 1974 compared with a population decrease of 4.3 percent between 1960 and 1970.

The birth rates and population migration factors of individual school districts probably do not parallel the estimates for the states in which they are located. However, the information about conditions at the national, regional, and state levels may be useful in evaluating the significance and stability of local trends.

Teacher Lay Offs

The number of positions normally opened each year through teacher attrition (deaths, retirements, transfers to nonteaching assignments, entry into other occupations, personal or family responsibilities, etc.) has been between 7 and 9 percent of the teaching staff in grades K-12 and between 5 and 6 percent of the teaching staff in higher education. Re-entry of experienced teachers normally has reduced the net loss to 5 percent of K-12 teachers and to 3 percent of higher education faculty. This means that barring a significant reduction in these rates of attrition the enrollment declines should not require the *forced* separation of K-12 teachers (some positions opened by attrition simply would not need to be filled). However, the severe reductions in the age 18-21 population coupled with the relatively low rates of faculty attrition in higher education make it likely that some regular faculty will lose their positions as a direct consequence of enrollment declines.

Continuing Teacher Job Shortage

The major source of teaching position vacancies at all levels for at least the next 15 years will be the replacement of those leaving active teaching service each year. The population projections indicate that relatively small numbers of additional teachers will be needed for the increased numbers of students. Therefore, a fairly stable number of teaching job openings will occur each year for many years to come.

Larger numbers of higher education graduates enter teaching than any other occupation (employment in K-12 teaching was reported by 15 percent of employed 1975 bachelor's degree graduates and by 36 percent of employed 1975 master's degree graduates, and employment in educational institutions was reported by 54 percent of all employed 1973 doctorate recipients). The number of graduates receiving the bachelor's degree is expected to peak in 1982; master's degree, in 1984; and doctor's degree, in 1985. After these peak years, a slight increase in the percent of graduates entering education during the peak year will be needed just to fill the same number of annual teaching vacancies.

Tables 1 and 2 show a likelihood of a small annual increase in the number of teaching positions over the previous year in the elementary grades beginning about 1985, in secondary school grades beginning about 1990, and in higher education beginning about 1995. However, the age 5-13 population will not rise again even to 1977 levels until about 1990, the age 14-17 population will not rise again to 1977 levels during the remainder of this century, and the age 18-21 population will drop back to the 1977 level about 1982 and remain below that level until beyond the year 2000. Therefore, the numbers of additional teachers needed for expansion of school and college enrollments are not likely to make significant increases in the numbers of jobs for new graduates expecting to enter this field over the next 15 years, with the possible exception of jobs at the elementary school level in the early 1990's.

Despite recent significant reductions in the proportions of higher education graduates preparing to enter teaching careers, there are in 1978 almost twice as many qualified new graduates seeking teaching jobs as there are jobs available at each level—kindergarten through graduate school. This degree of imbalance has existed for at least the past four years and is likely to continue for 10 more years before moderating slightly during the subsequent 10 years as the total numbers of graduates gradually reduce to the levels observed in the late 1960's. Barring major changes in projected birth rates, rates of growth in total employment, status of working conditions and salaries in education compared with other occupations, rates of improvement in quality and scope of education, and other assumptions, it appears almost certain that an ample supply of qualified applicants for all teaching position vacancies will continue annually at least until the year 2000. Regardless of the assumption made about the extent that persons unable to secure teaching jobs in the heaviest surplus years of 1972 through 1987 may be available for employment in education in the 1990's, there is little or no evidence that a shortage of qualified teacher applicants will occur in any year during the remainder of this century.

Enrollment in Private Schools

The U.S. Bureau of the Census reports that the numbers enrolled in private schools and colleges represent a slightly higher proportion of total enrollments in fall 1977 than they did in fall 1976. Enrollment in private institutions is reported for 11.1 percent of those enrolled in elementary schools, 7.9 percent of those in secondary schools, and 22.4 percent of those in higher education. The proportions enrolled in private institutions at each level were lower in 1969 through 1976 than in the years immediately preceding 1969, e.g., 1968 enrollment in private institutions represented 12.5 percent of those enrolled in elementary schools, 9.6 percent of those in secondary schools, and 27.3 percent of those in higher education.

At the elementary school level the slight increase in the proportion of students enrolled in private schools in fall 1977 results largely from a decrease in the numbers enrolled in public schools rather than a significant increase in numbers enrolled in private schools.

Guidelines for Local Association Planning

The most desirable approaches to alleviating the problems of declining population probably are not readily acceptable to many school systems because of financial constraints and/or high unemployment. Prompt and enlightened action by the local association will be necessary in most cases to assure that the advantages of adopting desirable alternatives are fully appreciated.

General guidelines for consideration by every local association as it plans for its response to the projected enrollment declines are listed below largely in terms applicable to K-12, but the concepts are equally applicable to institutions of higher education.

Review Local Conditions. Keep up-to-date information on population, school enrollment, and the number of births in your school district. Well organized school systems maintain an annual tabulation of the relationship of the number of 6-year-olds being enrolled to the number of children born to parents living in the school district six years earlier. Also, school systems must project their enrollments to support long-term planning for budgets and buildings. The collection and careful study of these data will help the local association assess the extent and timing of local problems related to declining enrollments.

Guard Against Regressive Attitudes. Be alert to the possibility that the low-growth or negative-growth trends in school-age population (accompanied by relatively high unemployment and underemployment, significant shifts in the growth patterns of other segments of the economy, and continuing existence of severe financial constraints upon state and local governments) might result in an acceptance of stagnation, restriction, regression

to lower standards, and insecurity as a general way of life and work. These attitudes will be a problem because they will affect teachers as well as the general public.

The local association probably will need to stimulate positive thinking and creativity, point the direction for actions needed to improve the quality of the schools, cite the opportunities opened by the larger supply of well-educated personnel to alleviate traditional deficiencies in education as well as in other public services, and publicize innovative approaches to solving educational problems.

Increase the Effectiveness of Association Communications. Success in maintaining and improving the quality of education depends on the extent that teachers and the public are kept fully informed about local conditions, issues, and desirable alternatives. The local association should produce the information needed by members and the public to make the decisions needed to achieve association objectives.

Update Goals for Improving the Quality of Schools and of Teaching. Because increased human resources are now available to support immediate improvements in the quality of all educational services, the local association should review and update its goals for improving the quality of schools and of teaching. Suggested standards have been issued by accrediting agencies, leading scholars, professional associations, and learned societies.

Consideration should also be given to the following personnel-related areas, which may need some immediate improvements.

- *Scope of Offering*
  - Are alternative instructional settings available to students having difficulties in the typical academic classroom?
  - Does the school district offer a sufficiently wide array of vocational, technical, fine arts, and practical studies?
  - Are students with learning handicaps given specialized instruction?
  - Are preschool-age children being prepared for an effective response to the classroom?
  - Are the basic literacy needs of the local adult population being fully met?
  - Are the employment and vocation-related educational needs of the local adult population being fully met?
- *Student Services*
  - Do certified nonteaching professional personnel screen students with learning difficulties and advise the school how to improve the students' performance?
  - Does the school district provide enough counselors, librarians, and health services personnel?
  - Do remedial specialists provide individualized instruction for students who require more attention than can be made available in the regular classroom?
- *Instructional Setting*
  - Are class sizes at levels most conducive to effective instruction?
  - Is the teacher workload within reasonable limits for the most effective instruction?
- *Staff Development*
  - Does the school district provide adequate released time for personally directed professional growth (attendance at professional meetings, visitation with other teachers having similar assignments, consultation with supervisory personnel, consultation with professional personnel specialized in the instructional materials being used, courses, etc.)?
  - Does the school district provide long-term leave opportunities for teachers to enroll in advanced or specialized preparation, engage in related work experience, prepare instructional materials or guides, serve as resource persons in evaluation and planning, participate in college and university evaluations and planning activities, etc.?
  - Does the retirement plan provide incentives for teachers to retire when they reach the age of early or normal retirement?

TABLE 1.–NUMBER OF PERSONS IN SELECTED AGE GROUPS PROJECTED TO THE YEAR 2000

Year (July)	Ages 5-13		Ages 14-17		Ages 5-17		Ages 18-21	
	Number (000)	Percent change	Number (000)	Percent change	Number (000)	Percent change	Number (000)	Percent change
1	2	3	4	5	6	7	8	9
1968	36,804	0.5	15,173	3.0	51,977	1.2	14,529	5.8
1969	36,836	0.1	15,560	2.6	52,396	0.8	14,426	–0.7
1970	36,636	–0.5	15,910	2.2	52,546	0.3	14,707	1.9
1971	36,105	–1.4	16,281	2.3	52,386	–0.3	15,019	2.1
1972	35,458	–1.8	16,557	1.7	52,015	–0.7	15,437	2.8
1973	34,737	–2.0	16,748	1.2	51,485	–0.1	15,795	2.3
1974	34,072	–2.0	16,880	0.8	50,952	–0.1	16,110	2.0
1975	33,440	–1.9	16,934	0.3	50,374	–1.1	16,484	2.3
1976	32,962	–1.4	16,893	–0.2	49,855	–1.0	16,767	1.7
1977	32,227	–2.2	16,783	–0.7	49,010	–1.7	16,956	1.1
1978	31,354	–2.6	16,648	–0.8	48,032	–2.0	17,106	0.9
1979	30,641	–2.4	16,272	–2.3	46,913	–2.3	17,156	0.3
1980	30,197	–1.4	15,763	–3.1	45,960	–2.0	17,117	–0.2
1981	29,804	–1.3	15,219	–3.5	45,023	–2.0	17,018	–0.6
1982	29,543	–0.9	14,656	–3.7	44,199	–1.8	16,874	–0.8
1983	29,334	–0.7	14,309	–2.4	43,643	–1.3	16,499	–2.2
1984	29,175	–0.5	14,261	–0.3	43,436	–0.5	15,989	–3.1
1985	29,098	–0.3	14,392	0.9	43,490	0.1	15,442	–3.4
1986	29,475	1.3	14,295	–0.7	43,770	0.6	14,873	–3.7
1987	30,142	2.3	13,965	–2.3	44,107	0.8	14,521	–2.4
1988	30,945	2.7	13,480	–3.5	44,425	0.7	14,470	–0.4
1989	31,715	2.5	12,996	–3.6	44,711	0.6	14,601	0.9
1990	32,568	2.7	12,771	–1.7	45,339	1.4	14,507	–0.6
1991	33,382	2.5	12,791	0.2	46,173	1.8	14,179	–2.3
1992	34,113	2.2	12,982	1.5	47,095	2.0	13,685	–3.5
1993	34,712	1.8	13,228	1.9	47,940	1.8	13,198	–3.6
1994	35,140	1.2	13,681	3.4	48,821	1.8	12,972	–1.7
1995	35,392	0.7	14,226	4.0	49,618	1.6	12,995	0.2
1996	35,513	0.3	14,778	3.9	50,291	1.4	13,184	1.5
1997	35,531	0.1	15,262	3.3	50,793	1.0	13,432	1.9
1998	35,457	–0.2	15,631	2.4	51,088	0.6	13,887	3.7
1999	35,303	–0.4	15,879	1.6	51,182	0.2	14,435	3.9
2000	35,080	–0.6	16,045	1.0	51,125	–0.1	14,990	3.8

SOURCES:

1967–1969 U.S. Department of Commerce, Bureau of the Census. *Estimates of the Population of the United States by Age, Sex, and Race: April 1, 1960 to July 1, 1973.* Current Population Reports, Series P-25, No. 519. Washington, D.C.: Government Printing Office, 1974. 79 pp.

1970–1977 U.S. Department of Commerce, Bureau of the Census. *Estimates of the Population of the United States by Age, Sex, and Race: 1970 to 1977.* Current Population Reports, Series P-25, No. 721. Washington, D.C.: Government Printing Office, April 1978. 47 pp.

1976–2000 U.S. Department of Commerce, Bureau of the Census. *Projections of the Population of the United States: 1977 to 2050.* Current Population Reports, Series P-25, No. 704. Washington, D.C.: Government Printing Office, 1977. 87 pp.

Estimates are as of July 1 of the listed year and include Armed Forces overseas. Projections are Series II.

TABLE 2.–CLASSROOM TEACHERS IN GRADES K-12 AND FULL-TIME FACULTY HAVING RANK OF INSTRUCTOR OR ABOVE IN ALL INSTITUTIONS OF HIGHER EDUCATION, 1970 TO 1986

Year (fall)	Total teachers K-12		Public school teachers, K-12		Higher education faculty[a]	
	Number (000)	Percent change	Number (000)	Percent change	Number (000)	Percent change
1	2	3	4	5	6	7
1970	2,288	2.1	2,055	2.1	369	5.4
1971	2,294	0.3	2,063	0.4	379	2.7
1972	2,338	1.9	2,103	1.9	380	0.3
1973	2,376	1.6	2,138	1.7	389	2.4
1974	2,404	1.2	2,165	1.3	406	4.4
1975	2,441	1.5	2,196	1.4	440	8.4
1976	2,440	0.0	2,193	−0.1	434	−1.4
1977	2,427	−0.5	2,178	−0.7	449	3.5
1978	2,409	−0.7	2,157	−1.0	452	0.7
1979	2,386	−1.0	2,132	−1.2	457	1.1
1980	2,360	−1.1	2,104	−1.3	462	1.1
1981	2,348	−0.5	2,088	−0.8	463	0.2
1982	2,342	−0.3	2,080	−0.4	462	−0.2
1983	2,345	0.1	2,080	0.0	459	−0.6
1984	2,371	1.1	2,103	1.1	456	−0.7
1985	2,410	1.6	2,139	1.7	451	−1.1
1986	2,454	1.8	2,180	1.9	446	−1.1

SOURCE:

Prepublication release of tables prepared for the U.S. Department of Health, Education, and Welfare, Education Division, National Center for Education Statistics. *Projections of Education Statistics to 1986-87.* Washington, D.C.: Government Printing Office, 1978. Intermediate alternative projections are listed.

[a]Includes full time instructional staff with rank of instructor or above in all institutions of higher education.

TABLE 3.–TRENDS AMONG THE 50 STATES AND THE DISTRICT OF COLUMBIA IN THE NUMBER OF LIVE BIRTHS AND IN THE AGE 5-17 POPULATION

State by region	Live births, 1977		Population age 5-17 in 1977	
	Number	Percent change from 1971	Number (000)	Percent change from 1971
1	2	3	4	5
New England	**153,144**	**–18.7**	**2,751**	**–7.5**
Connecticut	35,991	–19.9	694	–9.6
Maine	15,695	–9.5	253	–3.1
Massachusetts	71,049	–21.4	1,285	–8.9
New Hampshire	12,064	–4.5	198	3.1
Rhode Island	11,932	–21.4	207	–8.4
Vermont	6,413	–18.0	114	–3.4
Mideast	**560,531**	**–16.2**	**9,378**	**–9.9**
Delaware	8,771	–11.4	135	–9.4
District of Columbia	21,322	–14.9	142	–12.9
Maryland	47,909	–16.5	964	–7.9
New Jersey	90,981	–17.4	1,651	–8.9
New York	237,894	–16.6	3,931	–9.5
Pennsylvania	153,654	–15.2	2,555	–11.7
Southeast	**780,135**	**–6.1**	**11,101**	**–2.9**
Alabama	60,905	–8.3	866	–6.3
Arkansas	34,502	–1.8	485	–1.6
Florida	111,414	–3.8	1,687	3.8
Georgia	85,138	–10.7	1,199	–2.0
Kentucky	60,532	1.8	795	–5.5
Louisiana	76,155	2.9	986	–4.8
Mississippi	46,850	–3.2	604	–4.1
North Carolina	84,772	–11.7	1,257	–4.2
South Carolina	48,419	–8.9	690	–3.0
Tennessee	70,032	–8.0	963	–3.6
Virginia	71,298	–10.4	1,160	–3.1
West Virginia	30,118	–4.7	409	–6.2
Great Lakes	**627,849**	**–11.9**	**9,577**	**–9.8**
Illinois	173,945	–9.6	2,570	–9.4
Indiana	85,425	–11.7	1,249	–8.8
Michigan	137,565	–14.5	2,194	–9.7
Ohio	162,353	–15.1	2,467	–11.3
Wisconsin	68,561	–4.4	1,097	–8.3
Plains	**261,881**	**–4.0**	**3,830**	**–9.9**
Iowa	45,270	–1.2	662	–10.2
Kansas	34,820	1.9	502	–10.2
Minnesota	60,145	–5.2	940	–9.8
Missouri	72,361	–11.0	1,058	–9.5
Nebraska	25,140	–2.3	353	–8.5
North Dakota	12,228	12.1	154	–11.0
South Dakota	11,917	4.4	161	–12.5
Southwest	**343,620**	**2.3**	**4,444**	**0.4**
Arizona	41,591	7.2	533	7.0
New Mexico	22,433	0.6	302	–2.6
Oklahoma	43,805	–2.5	608	–3.9
Texas	235,791	2.6	3,001	0.5
Rocky Mountain	**120,437**	**18.3**	**1,387**	**–0.2**
Colorado	43,424	5.0	591	–0.2
Idaho	18,242	30.2	204	2.0
Montana	13,004	6.6	179	–8.2
Utah	38,237	35.0	319	2.2
Wyoming	7,530	27.1	94	3.3
Far West	**467,466**	**1.6**	**6,540**	**–3.9**
Alaska	8,138	13.4	109	17.2
California	338,716	–0.1	4,746	–4.6
Hawaii	17,024	7.1	205	–1.0
Nevada	10,152	5.7	147	12.2
Oregon	38,398	12.9	513	–3.0
Washington	55,038	1.6	820	–5.4
TOTAL, 50 STATES AND D.C.	3,313,000	–6.9	49,008	–6.3

SOURCES:

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